

Rafflesia and its host.—BROWN¹⁹ has made a study of the relation of *Rafflesia manillana* to its host, a species of *Cissus*. It is parasitic on the roots, the base of the flower being imbedded in a vase-shaped mass of tissue formed from the root of the host. The vegetative portion of *Rafflesia* consists for the most part of rows of cells, which occur in the xylem, medullary rays, cambium, phloem, and sclerenchyma of the host. The flowers originate from rows of cells which usually cross the cambium. The presence of the parasite causes an excessive growth of both the xylem and the bark of the host, resulting in the formation of the vase-shaped mass of tissue in which the base of the shoot is imbedded. The differentiation of the growing point takes place before the shoot breaks through the bark of the host, but the enlargement of the parasite finally produces cracks in the bark, through which the parasite grows.—J. M. C.

Sex determination.—WILSON²⁰ has studied material of *Mnium hornum* in which an axis bears heads of "mixed organs" and also female heads. Some of the organs resembled antheridia, others archegonia, while a complete series of intermediate forms also occurred. Since the spermatogenous cells of the normal antheridia possess six chromosomes, the normal gametophyte number, the plant could not have been produced aposporously. The conclusion is suggested that sex determination is not bound up with mitosis, but is brought about "by metabolic processes which operate in the organism over a considerable part of its life history." This relation between the sexual condition and the conditions of living is a point of view which is becoming more and more established as the facts of sexuality accumulate.—J. M. C.

Cladophora in deep water.—In studying certain curiously corroded limestone slabs, known locally as "honeycomb rock," occurring in the deeper waters of Lake Ontario, KINDLE²¹ found some of them covered by a green alga. Since these specimens were obtained from a depth of 150 feet, the determination of the alga was of considerable interest. Upon reference to COLLINS and BRAND, the alga proved to be *Cladophora profunda* Brand, a species occurring in the lakes of the Bavarian highlands, but at no greater depth than 15 meters. BRAND characterized the Lake Ontario material as "forma *ima*." The species has not been recorded hitherto in America, and the depth at which it occurs is three times as great as any before known.—J. M. C.

¹⁹ BROWN, W. H., The relation of *Rafflesia manillana* to its host. Phil. Jour. Sci. Bot. 7:209-226. pls. 12-21. 1912.

²⁰ WILSON, MALCOLM, Sex determination in *Mnium hornum*. Ann. Botany 29: 443-440. pl. 20. 1915.

²¹ KINDLE, E. M., Limestone solution on the bottom of Lake Ontario. Amer. Jour. Sci. 39:651-656. figs. 3. 1915.